

Serial No.: 10/731,374  
Amdt. Dated November 13, 2006  
Reply to Office action of September 11, 2006

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### REMARKS

In the Office Action of September 11, 2006, claims 35-48 were rejected. Claim 49 was withdrawn pursuant to an earlier restriction requirement and election. The September 11, 2006 Office action has been carefully considered. The Applicant respectfully requests reconsideration of the application by the Examiner in light of the following remarks.

#### 35 USC § 103(a) Rejections

The Examiner rejected claim 35 under 35 U.S.C. 103(a) as being unpatentable over Fukuhara et al. (Japanese Patent Abstract 62253634; hereinafter "Fukuhara") in view of Sakata (Japanese Patent Abstract 58138735). The Applicant respectfully traverses the rejection.

The present invention recites a plasma technique for forming a uniform coating on a non-planar surface. Claim 35 of the instant specification, *inter alia*, recites, "...injecting at least one reactant gas into each of the plurality of plasmas such that a first flow rate of the at least one reactant gas into a first plasma and a second flow rate of the at least one reactant gas into a second plasma is different..."

The Examiner acknowledges that Fukuhara fails to disclose injecting the reactant gas into plasma (Claim 35 step (d)) and reacting the reactant gas with each of the plasma to form a coating (Claim 35 step (f)).

Discussing Sakata, the Examiner states in the office action that, "[t]he reactant gas, in this case oxygen, is injected into the formed plasma and the reactant gas and plasma flow towards the substrate surface..."

Sakata states that, "...[a] molded plastic article (e.g. molded article of polymethacrylate resin) is subjected to the plasma treatment (e.g. in the mixture of oxygen and inert gas under the following conditions: flow rate, 10-300ml/min; pressure, 0.5-2Torr; power of electric discharge, 50-500W; and treatment time, 0.2- 10min)..."

What Sakata appears to teach is a rate of flow of the plasma towards the molded plastic article for treating the article, not that of oxygen into an already formed plasma. No reasonable

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interpretation of the Sakata abstract would support the Examiner's contention that Sakata teaches injecting oxygen ("reactant gas" as used by the Examiner) into an already formed plasma.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." M.P.E.P. § 2143.03 (8<sup>th</sup> ed., Rev. Aug. 2006) (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974))

As Fukuhara fails to teach step (d) of claim 35 as stated by the Examiner and Sakata as discussed above also fails to support the Examiner's position of disclosing injecting a reactant gas into each of the plurality of plasma, the combination also fails to teach or suggest the claim limitation of step(d) of claim 35. Further, there is no teaching or suggestion in Sakata to make such a modification in Fukuhara.

Further, the additional claim limitation (step (f)) of reacting the at least one reactant gas with each of the plurality of plasmas to form the uniform coating on the surface of the non-planar substrate, which was also acknowledged by the Examiner as not being taught by Fukuhara, is also not taught or suggested by Sakata.

Therefore the combination fails to teach each and every limitation of claim 35. Further, there is no teaching or suggestion in Sakata to modify Fukuhara in a manner so as to render claims 35 obvious. Therefore, the Applicant respectfully requests that the Examiner withdraw the rejection of claim 35 under 35 U.S.C. 103(a).

Claims 36-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara in view of Sakata and further in view of Schram et al. (US Patent 4,871,580; hereinafter called "Schram"). The rejection is respectfully traversed.

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." M.P.E.P. § 2143.03 (8<sup>th</sup> ed., Rev. Aug. 2006) (*In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

As discussed above, the combination of Fukuhara and Sakata does not render obvious claim 35. Claims 36 and 37 depend either directly or indirectly on claim 35, which is patentable.

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Therefore, whether or not Schram teaches or suggests an expanding thermal plasma source is not pertinent to the patentability of claims 36 and 37. Therefore at least by virtue of their dependency, claims 36 and 37 are patentable. Applicant respectfully requests withdrawal of the rejection.

Claims 38-48 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara in view of Sakata and further in view of Mochizuki (Japanese Patent Abstract 63187619). The rejection is respectfully traversed.

As discussed above, the combination of Fukuhara and Sakata does not render obvious claim 35. Claims 38-42 depend either directly or indirectly on claim 35, which is patentable. Therefore, whether or not Mochizuki teaches or suggests a gas injector with a plurality of orifices is not pertinent to the patentability of claims 38-42. Therefore, as claim 35 at least by virtue of their dependency, claims 38-42 are patentable. Applicant respectfully requests withdrawal of the rejection of claims 38-42.

As discussed above, the combination of Fukuhara and Sakata does not teach or suggest injecting the at least one reactant gas into a first and second plasma at different rates and reacting the at least one reactant gas with each of the plurality of plasmas to form a uniform coating on the surface of the non-planar substrate, and neither does Mochizuki. Whether or not Mochizuki teaches or suggests a gas injector with a plurality of orifices is not pertinent as the step of injecting at least one reactant gas into a first and second plasma at different rates and reacting the at least one reactant gas with each of the plurality of plasmas to form a uniform coating on the surface of the non-planar substrate is not taught or suggested by the combination of references. So Fukuhara in view of Sakata and further in view of Mochizuki does not teach or suggest each and every element of claim 43 and hence is patentable. Claims 44-48 depend either directly or indirectly on claim 43. At least by virtue of their dependency, claims 44-48 are patentable. Applicant respectfully requests withdrawal of the rejection of claims 43-48.

Therefore, the Applicant respectfully requests that the Examiner withdraw the rejection of claims 38-48 under 35 U.S.C. 103(a).

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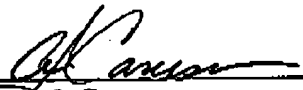
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Double Patenting

The Examiner provisionally rejected claims 35-48 as being unpatentable over claims 32-43 of previously co-pending Application No. 10/626253, now US Patent 7112352, in view of Fukuhara. Since obviousness type double patenting rejections are readily overcome by terminal disclaimer and are moot absent the Examiner finding otherwise patentable subject matter, the Applicant requests a deferral of the double patenting question until other bases of rejection by the Examiner have been resolved.

In view of the foregoing amendment and arguments, the Applicant believes that each of claims 35-48 is now in condition for allowance. The Applicant thus courteously solicits the Examiner's review of the Applicant's arguments. Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact the Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

  
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